CLAIMS

1. A method for making a three-dimensional microstructure, comprising deforming a first microstructure at a predetermined deformable portion.

2. A method as in claim 1, wherein the deforming comprises bending.

3. A method as in claim 1, wherein the deformable portion allows deformation in a predetermined direction.

4. A method as in claim 1, wherein the deformable portion allows deformation to a predetermined angle.

5. The method of claim 1, wherein the deformable portion comprises thinner dimensions than regions immediately adjacent the deformable portion.

6. A method as in claim 1, wherein the first microstructure is two-dimensional.

7. A method as in claim 1, wherein the first microstructure is three-dimensional.

8. A method as in claim 1, wherein the three-dimensional microstructure has at least one component with at least one dimension less than about 1 mm.

9. A method as in claim 8, wherein the three-dimensional microstructure has at least one dimension less than about 500 µm.

10. A method as in claim 9, wherein the three-dimensional microstructure has at least one dimension less than about 100 µm.

11. A method as in claim 10, wherein the three-dimensional microstructure has at least one dimension less than about 25 µm.

12. A method as in claim 1, wherein the first microstructure further comprises rigid portions unaffected by the deforming step.

13. A method as in claim 1, wherein the deformable portion has a thinner dimension than an adjacent portion.

14. A method as in claim 1, wherein the deformable portion comprises a discontinuous pattern.

15. A method as in claim 1, further comprising reinforcing the three-dimensional microstructure after deforming.

16. The method of claim 15, wherein the reinforcing comprises electroplating.

17. A method as in claim 16, wherein the electroplating increases a thickness of at least a portion of the three-dimensional microstructure by at least 10%.

18. A method as in claim 1, comprising connecting the first microstructure to a second microstructure, wherein the first microstructure is integral with the second microstructure in the 3-dimensional microstructure.

19. A method as in claim 18, wherein the connecting step comprises positioning a portion of the first microstructure adjacent a portion of the second microstructure and electroplating the positioned first and second microstructures.

20. A method for making a three-dimensional microstructure, comprising:

deforming a microstructure at a predetermined deformable portion to provide a deformed portion;

treating the deformed portion to form a non-deformable portion.

21. A method as in claim 20, wherein the treating comprises electroplating the deformed portion.

22. A method for making a three-dimensional microstructure, comprising:

providing a microstructure;

deforming a portion of the microstructure in a first predetermined orientation to form a deformed portion;

treating the deformed portion; and

applying a deformation to a portion of the microstructure in a second predetermined orientation.

23. A method as in claim 22, wherein the first predetermined orientation comprises a predetermined direction.

24. A method as in claim 22, wherein the first predetermined orientation comprises a predetermined angle.

25. A method for making a microstructure having a link, comprising:

providing a first and a second three-dimensional substrate;

printing a pattern on the first and second substrates;

supporting the first substrate adjacent the second substrate to provide a combined pattern having at least one feature resembling a link;

26. The method of claim 25, wherein the link comprises a chain link.

27. The method of claim 25, further comprising reinforcing the supported first and second substrates.

28. The method of claim 27, further comprising dissolving the first and second substrates.

29. A free-standing, integral three-dimensional truss.

30. A truss as in claim 29, wherein the truss is a microstructure.

31. A truss as in claim 29, wherein the truss has at least one dimension less than about 1 mm.

32. A truss as in claim 29, wherein the truss comprises at least two tetrahedra placed side-by-side.

33. A truss as in claim 32, wherein the truss comprises at least two square pyramids placed side-by-side.